Remarks

Upon entry of the foregoing amendment, claims 1-11 and 13-21 are pending in the application, with claims 1, 13-16 and 21 being the independent claims.

In the Office Action dated May 5, 2005, claims 1-3, 11 and 13-19 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Dabell, U.S. Patent No. 6,621,862. Claim 4 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Dabell, U.S. Patent No. 6,621,862 in view of alleged admitted prior art. Claim 21 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Shimomura *et al.*, U.S. Patent No. 6,404,525. Claims 5-10 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowable Claims

Applicant thanks the Examiner for indicating the allowability of claims 5-10 and 20.

Rejections under 35 U.S.C. § 103(a)

Applicant respectfully traverses the rejection of claims 1-3, 11 and 13-19 based on Dabell and the rejection of claim 4 based on Dabell in view of alleged admitted prior art for the reasons set forth herein.

Claims 1 and 13-15 are directed to methods for equalizing analog samples of a multi-gigabit analog information signal. Claim 16 is directed to a system for equalizing analog samples of a multi-gigabit analog information signal. FIG. 19, for example, illustrates the reception of a multi-gigabit analog signal, the sampling of the multi-gigabit analog signal to generate discrete-time analog samples of the multi-gigabit analog signal, the equalization of the discrete-time analog samples, and the quantizing of the equalized discrete-time analog samples to produce a digital output signal.

Contrary to an aspect of the present invention as recited in claims 1 and 13-16, FIG. 3 of Dabell illustrates the reception of an analog signal (114), the conversion of the analog signal to a digital signal (321), the equalization of the digital signal (330 and 341 together), and the re-quantization of the equalized digital signal (351). Further, the components of the equalization controller (330) depicted in FIG. 4 of Dabell are inherently digital devices. Dabell, therefore, does not teach or suggest performing an equalization process on analog samples of a multi-gigabit analog information signal as recited in claims 1 and 13-16. Further, Dabell does not provide any motivation or suggestion to perform an equalization process on analog samples of a multi-gigabit analog information signal as recited in claims 1 and 13-16.

In the present Office Action, the Examiner asserts that equalizing analog samples of a multi-gigabit analog signal is "merely a matter of design choice." On the contrary, Applicants contend that conventional equalizers are not designed for multi-gigabit operation. Further, Applicants are not aware of any prior art, and the

Examiner cites no prior art, teaching or suggesting the equalization of analog samples of a multi-gigabit analog signal as recited in claims 1 and 13-16.

Therefore, in contrast to the Examiner's assertion, performing an equalization process on analog samples of a multi-gigabit analog signal is not obvious in light Dabell. Accordingly, independent claims 1 and 13-16 are allowable over Dabell. Reconsideration and withdrawal of the rejections of claims 1 and 13-16 is therefore requested.

Claims 2-4 and 11 depend, either directly or indirectly, from claim 1. Claims 17-19 depend, either directly or indirectly, from claim 16. Claims 2-4, 11 and 17-19 are therefore allowable at least because their base claims are allowable, as well as due to the features recited therein.

Applicant respectfully traverses the rejection of claim 21 based on Shimomura *et al.*, for the reasons set forth herein.

Shimomura *et al.* is directed to an Optical Add-Drop Multiplexer (OADM). As shown in FIG. 1, and correspondingly described at column 10, lines 42-43, the OADM "divides an input wavelength-multiplexed light to respective wavelength signals." The respective wavelength signals are monitored by an optical signal deterioration monitor (14) for faults. Wavelength signals with faults are dropped using optical switches (15-1 to 15-n). Wavelength signals without faults and new wavelength signals are passed to an optical wavelength multiplexer coupler (18). The optical wavelength multiplexer coupler combines distinct wavelength signals into a wavelength-multiplexed optical output signal.

As stated at column 8, lines 29-31, the OADM disclosed by Shimomura *et al.* provides "an optical routing function of providing a regular correlation between the optical input ports (output of 11) and the optical output ports (input of 18) for every wavelength. That is, the OADM disclosed by Shimomura *et al.* provides a direct path for the constituent wavelength signals of the input wavelength-multiplexed light. Therefore, contrary to the Examiner's assertion, Shimomura *et al.* does not teach or suggest a system for *routing* high data rate analog signals. Further, contrary to the Examiner's statement, Shimomura *et al.* does not teach or suggest that the optical signal deterioration monitor (14) is an adaptive equalizer. Specifically, the optical signal deterioration monitor (14), as described by Shimomura *et al.*, simply monitors the quality of individual optical signals and does not perform equalization functions. In contrast to Shimomura *et al.*, claim 21 recites "a system for routing and adaptively equalizing high data rate analog signals" and further recites that component receivers of the system include "adaptive equalizers." Shimomura *et al.* does not teach or suggest these features of the present invention as recited in claim 21. Accordingly, claim 21 is allowable over Shimomura *et al.* Reconsideration and withdrawal of the rejections of claim 21 is therefore requested.

Other Matters

In the Office Action dated September 29, 2004, FIGs. 21C and 21D were objected to as not being of sufficient quality to permit examination and FIG. 9 was objected to for lacking labels to the X and Y axes. Accordingly, with the Amendment dated December 28, 2004, Applicants submitted corrected replacement drawings for

FIGs. 9, 21C and 21D and requested the corresponding objections be withdrawn. In the present Office Action, the Examiner failed to specify whether or not the replacement drawings were accepted. Therefore, Applicants respectfully request that these objections be withdrawn in light of the replacement drawings filed on December 28, 2004.

Second Supplemental IDS of February 22, 2005

Applicants respectfully request the Examiner acknowledge receipt and consideration of the IDS (Second Supplemental IDS) filed on February 22, 2005.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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